

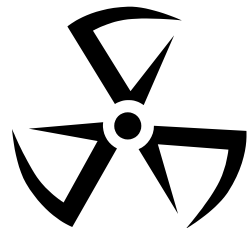


ITRAC-3 Nuclear Science Training Course with NUCLEONICA

*3rd International Training Course on Illicit Trafficking and Radiological
Consequences with Nucleonica, Karlsruhe, 11-13 May 2011*

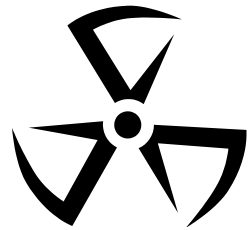
Institute of Public Health
of the Republic of Macedonia

M. Sc. Snežana Dimovska



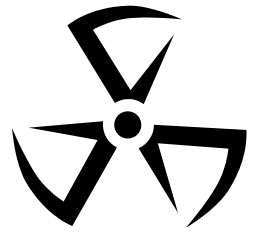
Institute of Public Health

- Ionizing Radiation Laboratory
- Laboratory of Radioecology



Laboratory of Radioecology

- Authorized by the Law on Radiation Protection and Safety for the national monitoring of the radioactive contamination of the environment
- Accredited according to ISO 17025



Measurement techniques

- Gross α/β measurements
- Radiochemical separation and measurement of ^{90}Sr
- Gamma spectrometry
- Radon measurements (passive and active method)
- Gamma dose rate measurements

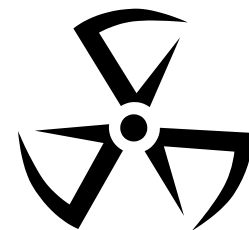


Gross alpha/beta measurements

➤ **Instrument:**

Low background
multiple detector
counting system for low
alpha/beta activities,
Eurisys Mesures



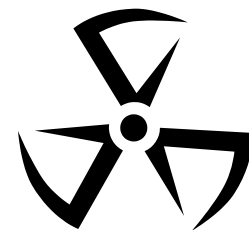


Gamma spectrometry

➤ Instrument:

p-type HPGe detectors with relative efficiency of 25% and resolution of 1.79 keV at 1.33 MeV, Canberra Packard



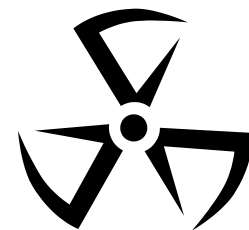


Radon measurements

➤ Instruments:

- Active radon/thoron system, Sarad
- CR-39 solid state nuclear tracks detectors for indoor radon and thoron measurement, Radosys





Gamma dose rate measuring system

➤ Data center:

- PC with a visualisation software (MEVIS)
- GSM modem connected to the PC via a COM/Serial Port

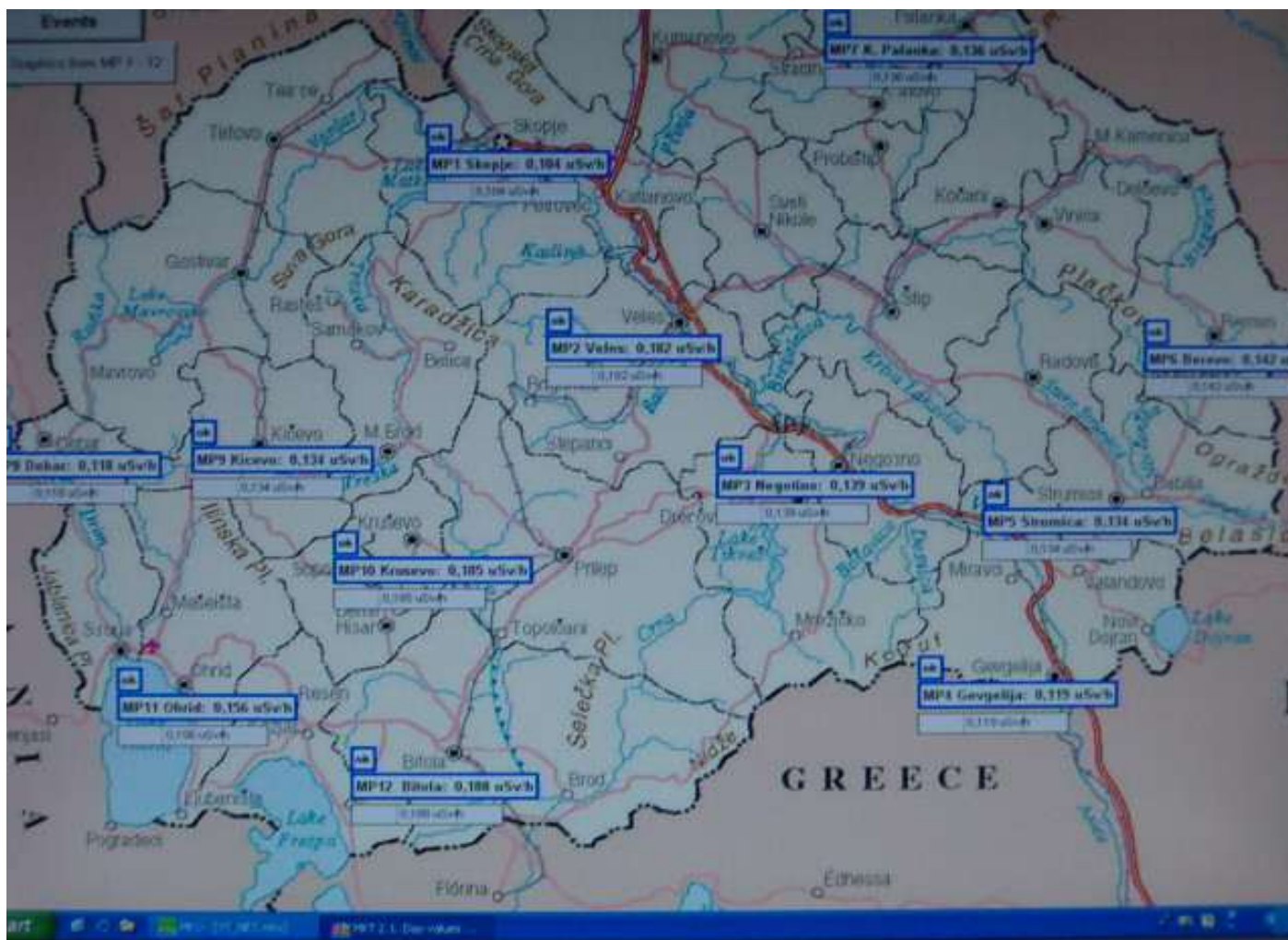
➤ Measuring Units (12):

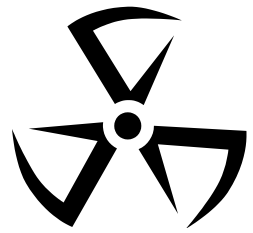
- 12 V lead battery
- GSM Modem MC35i + SIM Card
- Nemp Filter
- GSM antenna
- Radiation Detector 70045A
- IP67 housing





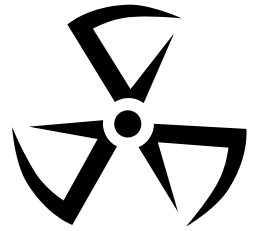
Gamma dose rate measuring network





Monitoring program samples

- Drinking, surface and underground waters
- Atmospheric precipitations
- Aerosols
- Food
- Cattle food
- Soil



Export/import samples

- Mineral waters
- Food, especially mushrooms and other forest fruits
- Items for general use (tobacco and its products)
- Building materials (cement, gypsum, metals, sand, marble, granite ...)
- Scrap metals



Thank you for your attention!

